

FIVE NEW SPECIES OF LOBELIACEAE

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Centropogon poasensis n. sp.

Stem woody, densely and coarsely ferruginous-stellate above, becoming glabrous 2-3 dm. from the summit, the internodes about 1 cm. long; petioles stout, densely tomentose, 10-15 mm. long; leaf-blades thin, dull green, oblong-elliptic, 35-60 mm. long, 17-25 mm. wide, the uppermost somewhat smaller, abruptly acuminate or slightly falcate, sharply spinulose-denticulate with black, callous, subulate-triangular, salient teeth (5-6 teeth per cm. of margin, 0.3-0.5 mm. long), obtuse to subrotund at base, sparsely stellate along the midvein and glabrous on the surface above, coarsely ferruginous-stellate below, especially on the veins; lateral veins about 5 mm. apart, broadly divergent, the veinlets obscure; peduncles axillary, slender, spreading, 3-5 cm. long, densely ferruginous-tomentose, subulately bracteolate near the base; hypanthium broadly hemispherical, 4 mm. high, 7-8 mm. wide when pressed, densely tomentose at the base, sparsely stellate above; sepals erect, triangular-subulate, 3 mm. long, sparsely and minutely denticulate, thinly stellate, especially at the margin; corolla about 28 mm. long, red, prominently and coarsely stellate, especially toward the summit, the tube lightly curved, the lobes linear-falcate, strongly decurved; filaments exerted 6-10 mm., prominently white-villous; anther-tube 7 mm. long, lead-color, sparsely pilose in the fissures, the two lower anthers penicillate.

Type, *Smith 6626*, collected Mar. 1896, Volcan Poas, Prov. Alajuela, Costa Rica, altitude 2500 m., and deposited in the herbarium of the New York Botanical Garden. Duplicates of the type are in various other herbaria, and, so far as examined, agree exactly with it. A second collection from the same locality is *Pittier 2045*. The species was originally distributed by Capt. Smith as *Siphocampylus Regelii* Vatke, which is distinguished by its large leaves, 10-12 cm. long and 5-6 cm. wide, its shorter sepals, and its thin cinereous tomentum, composed of branched hairs only about half as large as those of *C. poasensis*.

Both species are true *Centropogons*, and show by their hypanthia, corollas, and tomentum their close relationships to a large group of species in northwestern South America. *Siphocampylus Regelii* Vatke is better known as *Centropogon costaricanus* Planch. & Oerst., a name which not only places the plant in the proper genus but has also the advantage of seventeen

years' priority. Zahlbruckner has regarded it as a variety of *Centropogon affinis* Mart. & Gal., a species of Guatemala and southern Mexico with which our plant has little real affinity.

✓ ***Centropogon rubrovenosus* n. sp.**

Stems climbing, strongly grooved and angled above, glabrous or slightly verrucose below, minutely pilose near the nodes, the internodes 2.5–5 cm. long; petioles stout, 6–8 mm. long, minutely scabrous-pubescent; leaf-blades ovate, apparently rather fleshy, 6–7 cm. long, 3–4 cm. wide, broadest below the middle, gradually narrowed or abruptly subacuminate to a blunt apex, broadly rounded or subtruncate at the base, barely repand on the callous margin and denticulate with minute, callous, appressed teeth (2–3 teeth per cm. of margin, 0.1 mm. high), glabrous and dull green above, minutely and sparsely pubescent on the midvein beneath, the surface pale green; lateral veins plane, 8–12 mm. apart, arcuately ascending, the veinlets coarsely reticulate, the veins bordered and the veinlets marked by bands of dark red; inflorescence an elongate terminal raceme; peduncles slender, 2–3 cm. long, conspicuously pubescent at the base, sparsely pubescent above, ebracteolate; bracts ovate, 5–9 mm. long, petioled; hypanthium hemispheric, 3 mm. high, 7 mm. wide when pressed, very sparsely and minutely pilose; sepals reflexed, linear, 7–9 mm. long, minutely pubescent, 1-nerved; corolla red, strongly curved, sparsely pubescent, the tube about 28 mm. long, the lobes broadly triangular-falcate, decurved; filaments exerted 10–12 mm., glabrous; anther-tube 6 mm. long, glabrous below, the upper anthers pubescent with purple hairs at the tip, the two lower with a cartilaginous appendage.

Type, *Macbride 4104*, collected 20 May to 1 June 1923, Huacachi, near Muna, Peru, altitude about 6500 feet, and deposited in the herbarium of the Field Museum of Natural History. Closely related to *C. yungasensis*, from which it differs in its elongate racemes and its ovate, red-veined leaves.

✓ ***Siphocampylus corynellus* n. sp.**

Stem shrubby, thinly tomentose above, the internodes 5–15 mm. long; petioles 8 mm. long; leaf-blades thick and firm, narrowly oblong-linear, 6–9 cm. long, 8–12 mm. wide, acute, finely denticulate, long-cuneate to the base, dark-green, glabrous, and strongly rugose above, densely white-tomentose beneath; peduncles axillary, 5–6 cm. long, erect; hypanthium broadly turbinate, 6 mm. long, 9 mm. wide when pressed, faintly ribbed; sepals erect, narrowly triangular, acute, separated by broad flat

sinuses 3 mm. wide; corolla white or pale yellow, 38 mm. long over all, the tube 15 mm. long, upper four lobes 23 mm. long, straight and erect, narrowly triangular, 2-3 mm. wide at the base, the lower lobe linear, separate nearly or quite to the base; anther-tube 11 mm. long, about equaling the petals, glabrous, all anthers densely woolly at the apex.

Type, *Matthews 1185*, collected in Peru, and deposited in the herbarium of the Royal Botanic Garden at Kew, England.

S. corynellus is closely akin to *S. corynoides* Wimmer, of which I have seen a sheet collected by Pearce and *Cook & Gilbert 1326*. The two are at once distinguished from the other species of the genus with short corolla-tube and pale flowers by the corolla, in which the lower lobe is separate from the others almost to the base.

***Siphocampylus flavoruber* n. sp.**

Stem apparently herbaceous and erect, strongly and irregularly angled or subulate, thinly pubescent when young, glabrescent with age, the internodes 5-10 mm. long; petioles stout, 3-5 mm. long, sparsely hirtellous; leaf-blades firm, narrowly ovate-oblong, 45-75 mm. long, 15-25 mm. wide, or the upper smaller, acute or short-acuminate, broadly cuneate at base, finely and sharply fimbriate-denticulate with triangular-subulate, callous, salient teeth (about 20 teeth per cm. of margin, 0.3-0.8 mm. long), dull green, rugose, and minutely puberulent above, pale green and densely hirtellous with nearly straight white hairs beneath; lateral veins 2-5 mm. apart, ascending at an angle of about 45° and freely branching in their distal half, the veinlets finely reticulate; peduncles numerous, axillary, forming a leafy terminal raceme, 25-45 mm. long, densely white-hirtellous, frequently twisted or contorted 6 mm. from the summit; bracteoles filiform, 3 mm. long; hypanthium broadly turbinate-pyriform, 6-8 mm. high, 7-9 mm. wide when pressed, prominently 10-ribbed, minutely white-hirtellous; sepals erect or slightly spreading, triangular-subulate from a dilated base, 5 mm. long, denticulate with 5-6 pairs of callous salient teeth, prominently 1-nerved, conspicuously white-hirtellous; corolla 4 cm. long over all, red above, yellow on the ventral half, minutely and sparsely pubescent, the tube 22 mm. long ventrally, 26 mm. dorsally, the lobes linear, the lower 18, the upper 14 mm. long; stamens about equaling the corolla, the filaments glabrous, the anther-tube glabrous, greenish-brown, 7 mm. long, the two lower anthers penicillate.

Type, *Bro. Julio 40*, collected in Bolivia, and deposited in the United States National Herbarium. Related to *S. tupaeformis*

Zahlbr., *S. foliosus* Griseb., and *S. nemoralis* Griseb., from which it is distinguished by its subulate, spinulose-denticulate sepals; more closely resembling *S. tupaiformis reduncus* Wimmer *ined.*, which has prominently reticulate leaves truncate at the base.

✓ ***Siphocampylus fissus* n. sp.**

Stem woody, twining, scabrously pubescent above, the internodes 5–10 mm. long, later lengthening to 2 cm.; petioles stout, 4–6 mm. long, rough-pubescent; leaf-blades coriaceous, dark green, shining above, broadly ovate-oblong, 20–27 mm. long, 12–18 mm. wide, broadly rounded at the apex, truncate or broadly rounded at base, subrevolute at the cartilaginous margin, sharply and finely denticulate with subulate salient teeth (about 4 teeth per cm. of margin, 0.5 mm. long), glabrous and strongly rugose above, brownish-green and scabrously pubescent on the veins beneath, the veinlets prominently reticulate; peduncles axillary, 15 mm. long, densely pubescent, forming a leafy raceme; hypanthium turbinate, 3 mm. high, 6 mm. wide when pressed, densely pubescent; sepals erect, oblong, 1.5 mm. long, rounded at apex, thinly pubescent, separated by broad flat sinuses; corolla pale yellowish-green, the tube densely pubescent, 10 mm. long, 3–4 mm. wide when pressed, the lobes closely pubescent, narrowly linear, the upper 23 mm. long, the lower a little shorter; filaments equaling the upper corolla-lobes, glabrous below, puberulent at the summit; anther-tube 10 mm. long, glabrous, the two lower anthers penicillate.

Type, *Macbride 4863*, collected 16–24 June 1923, Playapampa, Peru, altitude about 9000 feet, and deposited in the herbarium of the Field Museum of Natural History (duplicate in herb. of New York Botanical Garden). A relative of *S. Purdieanus* Planch. and *S. secundus* Wimmer, as shown by the deeply cleft corolla; differing from the latter in its broad blunt leaves and pubescence and from the former in its small, rugose, shining leaves.

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